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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/643,671

08/19/2003

Masashi Yoshida

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08/10/2004

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EXAMINER

HASAN, MOHAMMED A

ART UNIT

PAPER NUMBER

2873

DATE MAILED: 08/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/643,671

Applicant(s)

YOSHIDA, MASASHI

Examiner

Mohammed Hasan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7/7/2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 5 and 9 is/are rejected.
- 7) ☒ Claim(s) 3, 4, 6 - 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/7/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The prior art documents submitted by applicant in the Information Disclosure Statement filed on 7/7/2004 have all been considered and made of record (note the attached copy of form PTO – 1449).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 5 and 9 are rejected under 35 U.S.C. 102 (e) as being anticipated by Nagahara (US 2002/0181120 A1).

Regarding claim 1, Nagahara discloses (refer to figure 1) a projection zoom lens system that projects onto a screen projection light from a light modulator (1) which includes a plurality of elements (e.g., DMD light modulator, paragraph 0067) and forms an image by changing directions of reflections of

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illuminating light from an illuminating optical system using the plurality of elements, the projection zoom lens system including first (G_{1A} and G_{1B}), second (G_2), third (G_3), fourth (G_4), and fifth lens group (G_5) arranged in this order from the screen side, the fifth lens being a common lens group that disposed on the front side of the light modulator, transmits the illuminating light and the projection light and does not move during zooming, the first lens group being a focused lens group that moves in order to adjust a focus and does not move during zooming, the third lens being a zooming lens group and zooming effect is mainly produced by movement of this group and the second and fourth lens group being compensating lens group that mainly compensate aberrations by moving when zooming is carried out (paragraph 0036 – 0039).

Regarding claim 2, Nagahara discloses (refer to figure 1) the first lens group

(G_{1A} and G_{1B}) has a negative power, the second lens group (G_2) has a positive refractive power, the third lens group (G_3) has a positive refractive power, the fourth lens group (G_4) has a negative refractive power, and fifth lens group (G_5) has a positive refractive power (paragraph 0036).

Regarding claim 5, Nagahara discloses, the second, third, and fourth lens group (G_2 , G_3 and G_4) towards the screen when zooming is carried out from a wide-angle end to a telephoto end (as shown in figure 1).

Regarding claim 9, Nagahara discloses, the light modulator and the illumination optical system (paragraph 0040).

Allowable Subject Matter

3. Claims 3, 4 and 6 – 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to show the first and fourth groups include an aspherical lens, Sequentially from the screen side , a positive lens that is convex on the screen side, a double – concave negative lens and a positive lens that is convex on the light modulator side, a focal length f_w of the projection lens system at the wide-angle end and a focal length f_3 of the third lens group satisfy the following condition $1.4 < f_3 / f_w < 2.1$ and a focal length f_t of the projection lens system at the telephoto end , and a distance T_4 of the fourth lens group traveling during zooming satisfy the following condition $.75 < T_4 \times f_t / f_w < 6.6$, and at least one of the first, second and fourth lens groups includes an aspherical lens.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The closest prior art

Yamagishi et al (6,137,638) discloses a projection zoom lens system and projector apparatus.

Response to Arguments

6. Applicant's arguments filed 7/7/2004 have been fully considered but they are not persuasive.

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7. In response to applicant's argument that Nagahara (US 2002/0181120) discloses (refer to figure 1) a projection zoom lens system that projects onto a screen projection light from a light modulator (1) which includes a plurality of elements (e.g., DMD light modulator, paragraph 0067) and forms an image by changing directions of reflections of illuminating light from an illuminating optical system using the plurality of elements, the projection zoom lens system including first (G_{1A} and G_{1B}), second (G_2), third (G_3), fourth (G_4), and fifth lens group (G_5) arranged in this order from the screen side, the fifth lens being a common lens group that disposed on the front side of the light modulator (paragraph 0037) and the lens group G_1 and G_5 is fixed during zooming (i.e., G_5 is a common lens group, that transmits the illuminating light and the projection light) (paragraph 0037). Nagahara further discloses the wide angle zoom lens system can be used as projection lens and a transmission type liquid crystal display panel (paragraph 0067). Nagahara further discloses (refer to figure 1) an optical system for combining or dividing colors, is positioned between the fifth lens group G_5 and an image surface 1 and X indicates the optical axis (i.e., fifth lens group G_5 is a common lens or a relay lens group, because fifth lens group G_5 pass the light in distinct points (paragraph 0038 and paragraph 0039).

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohammed Hasan whose telephone number is (571) 272-2331. The examiner can normally be reached on M-TH, 7:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on (571) 272- 2328. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MH
August 6, 2004



Georgia Epps
Supervisory Patent Examiner
Technology Center 2800